Agency EA Maturity: Are We Making Progress?

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The view in 1998

Maturity

Common lexicon

Professional certification (Architect)

Accepted standards

Demonstrated value (metrics)

Executive sponsorship

1990   2000   2010

Time

The view in 2004

Maturity

Common lexicon

Professional certification (Architect)

Accepted standards

Demonstrated value (metrics)

Executive sponsorship

?

1990   2000   2010
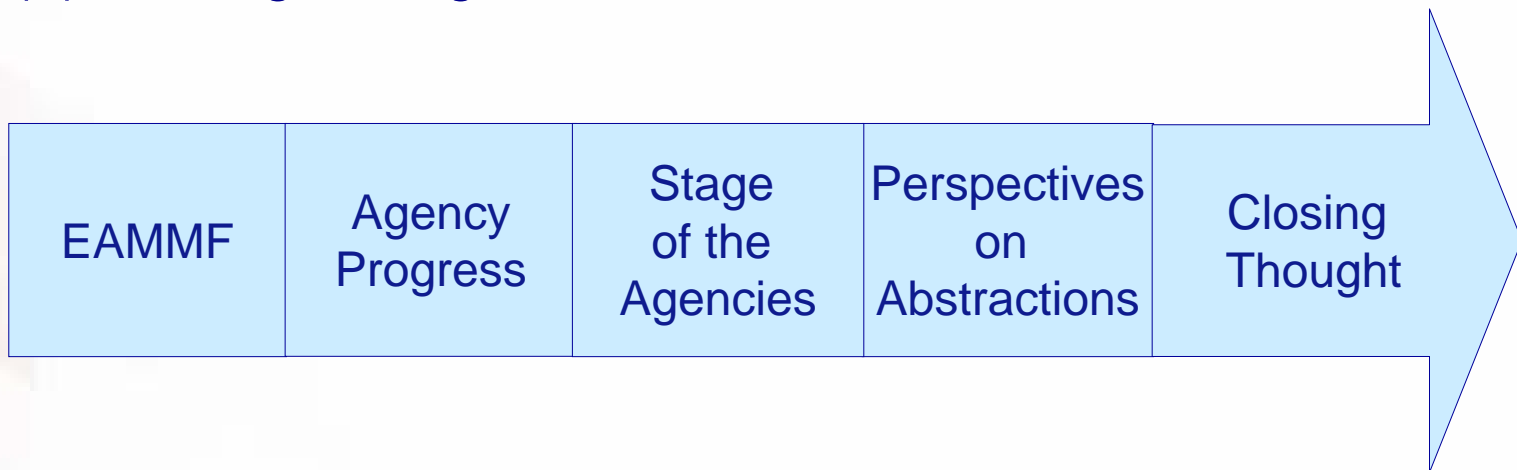
Time

Overview

(1) EAMMF: A Tool for Benchmarking and Improving Maturity

(2) Agency Progress: A Comparison of 2001 and 2003 Baselines

(3) "Stage of the Agencies" Address

(4) Agency "Perspectives on Abstractions of a Complex Entity"

(5) Closing Thought

EAMMF	Agency Progress	Stage of the Agencies	Perspectives on Abstractions	Closing Thought

EAMMF "Architecture"

maturity stages

critical success attributes
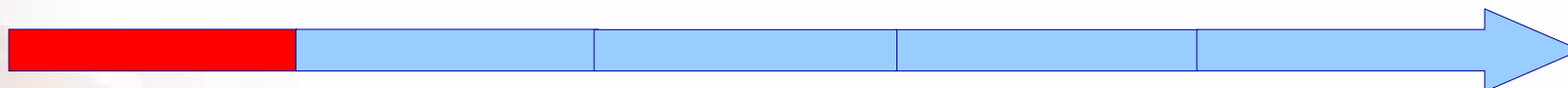
core elements

maturation
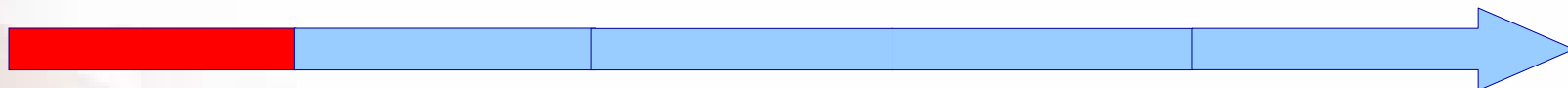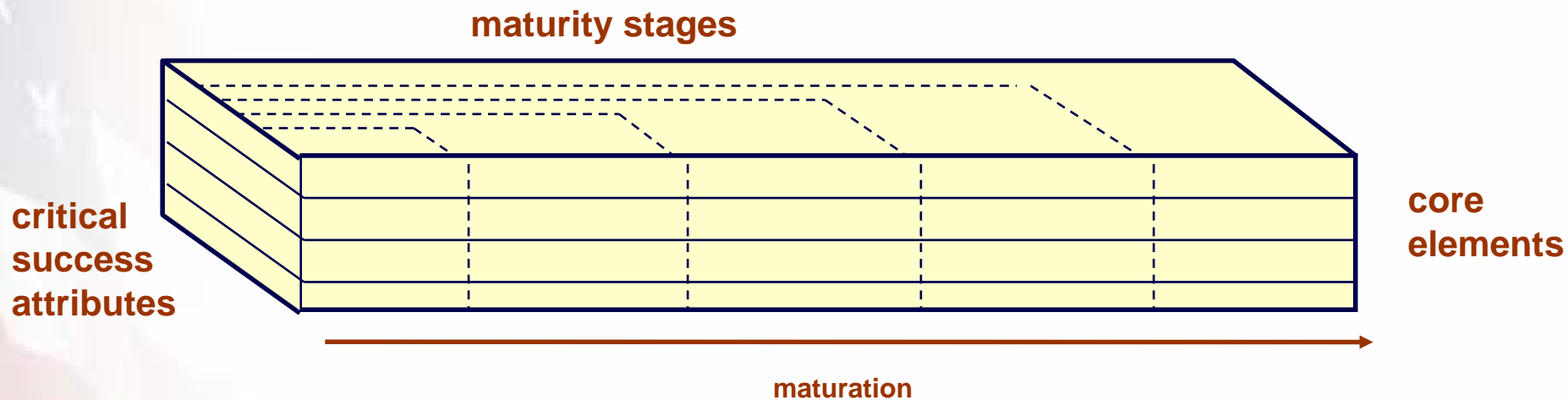
EAMMF "Architecture"

|	Stage 1: Creating EA awareness	Stage 2: Building the EA management foundation	Stage 3: Developing EA products	Stage 4: Completing EA products	Stage 5: Leveraging the EA to manage change
Attribute 1: Demonstrates commitment		core elements	core elements	core elements	core elements
Attribute 2: Provides capability to meet commitment		core elements	core elements	core elements	core elements
Attribute 3: Demonstrates satisfaction of commitment		core elements	core elements	core elements	core elements
Attribute 4: Verifies satisfaction of commitment		core elements	core elements	core elements	core elements

maturation →

Source: GAO.

EAMMF Version 1.0

|	Stage 1: Creating EA awareness	Stage 2: Building the EA management foundation	Stage 3: Developing EA products	Stage 4: Completing EA products	Stage 5: Leveraging the EA to manage change
Attribute 1: Demonstrates commitment	Agency is aware of EA.	Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Written/approved policy exists for EA development.	Written/approved policy exists for information technology investment compliance with EA.	Written/approved policy exists for EA maintenance.
Attribute 2: Provides capability to meet commitment		Program office responsible for EA development exists. Chief architect exists. EA being developed using a framework and automated tool.	EA products are under configuration management.		
Attribute 3: Demonstrates satisfaction of commitment		EA plans • call for describing the enterprise in terms of business, data, applications, or technology; • call for describing the "as is" environment, "to be" environment, or sequencing plan.	EA products • describe or will describe enterprise's business — and the data, applications, and technology that support it; • describe or will describe "as is" environment, "to-be" environment, and sequencing plan. EA scope is enterprise focused.	EA products • describe or enterprise's business — and the data, applications, and technology that support it; • describe "as is" environment, "to-be" environment, and sequencing plan. Agency chief information officer has approved EA.	Either EA steering committee, investment review board, or agency head has approved EA.
Attribute 4: Verifies satisfaction of commitment					Metrics exist for measuring EA benefits.

maturation

Source: GAO.

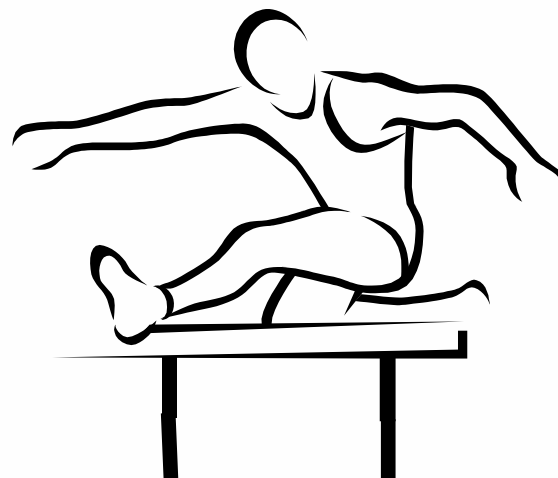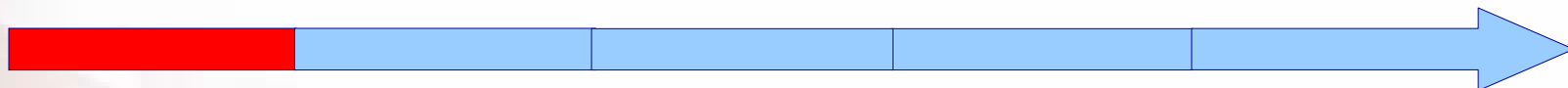Note: each stage includes all elements of previous stages.
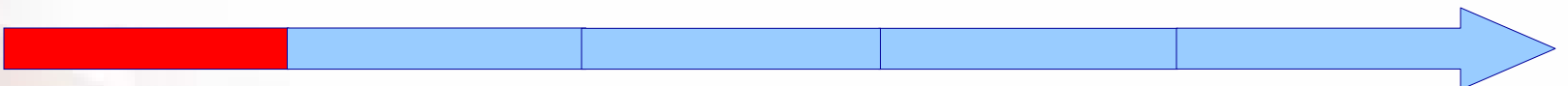
Since then . . .
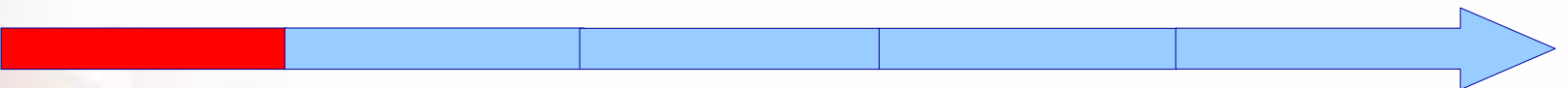
We updated the framework…
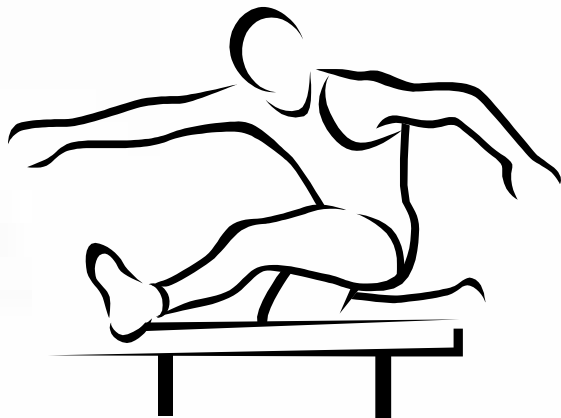
Version 1.0
19 core elements

Version 1.1
31 core elements

Changes to EAMMF

Version 1.1:

- addresses performance and security,
- introduces metrics for measuring enterprise architecture development, quality, and use,
- recognizes the need for adequate resources,
- recognizes the need for an enterprise architecture methodology, and
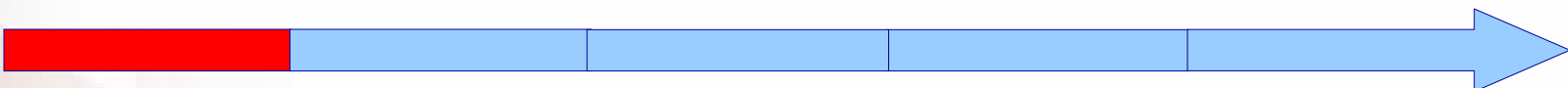- recognizes the importance of independent verification and validation.

New Stage 2

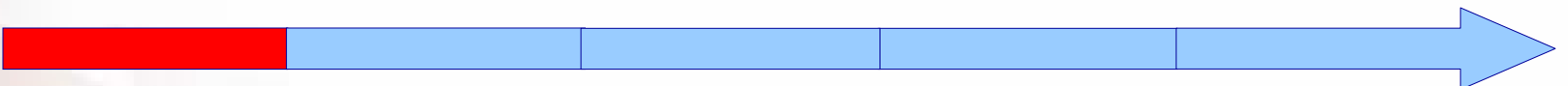|	Stage 1	Stage 2: Building the EA management foundation
Attribute 1: Demonstrates commitment		**Adequate resources exist.** **Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.**
Attribute 2: Provides capability to meet commitment		**Program office responsible for EA development and maintenance exists.** **Chief architect exists.** **EA being developed using a framework, methodology, and automated tool.**
Attribute 3: Demonstrates satisfaction of commitment		**EA plans call for describing both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be."** **EA plans call for describing both the "as-is" and the "to-be" environments in terms of business, performance, information/data, application/service, and technology.** **EA plans call for business, performance, information/data, service, and technology descriptions to address security.**
Attribute 4: Verifies satisfaction of commitment		**EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.**

maturation

Source: GAO.

New Stage 3

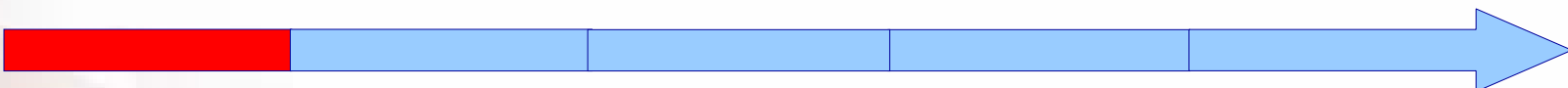|	Stage 1	Stage 2	Stage 3: Developing EA products
Attribute 1: Demonstrates commitment			**Written and approved organization policy exists for EA development.**
Attribute 2: Provides capability to meet commitment			**EA products are under configuration management.**
Attribute 3: Demonstrates satisfaction of commitment			**EA products describe or will describe both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be."** **Both the "as-is" and the "to-be" environments are described or will be described in terms of business, performance, information/data, application/service, and technology.** **Business, performance, information/data, application/service, and technology descriptions address or will address security.**
Attribute 4: Verifies satisfaction of commitment			**Progress against EA plans is measured and reported.**

maturation

New Stage 4

	Stage 1	Stage 2	Stage 3	Stage 4: Completing EA products
Attribute 1: Demonstrates commitment				**Written and approved organization policy exists for EA maintenance.**
Attribute 2: Provides capability to meet commitment				**EA products and management processes undergo independent verification and validation.**
Attribute 3: Demonstrates satisfaction of commitment				**EA products describe both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be."** **Both the "as-is" and the "to-be" environments are described in terms of business, performance, information/data, application/service, and technology.** **Business, performance, information/data, application/service, and technology descriptions address security.** **Organization CIO has approved current version of EA.** **Committee or group representing the enterprise or the investment review board has approved current version of EA.**
Attribute 4: Verifies satisfaction of commitment				**Quality of EA products is measured and reported.**

maturation

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New Stage 5

|	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5: Leveraging the EA to manage change
Attribute 1: Demonstrates commitment					**Written and approved organization policy exists for IT investment compliance with EA.**
Attribute 2: Provides capability to meet commitment					**Process exists to formally manage EA change. EA is integral component of IT investment management process.**
Attribute 3: Demonstrates satisfaction of commitment					**EA products are periodically updated. IT investments comply with EA. Organization head has approved current version of EA.**
Attribute 4: Verifies satisfaction of commitment					**Return on EA investment is measured and reported. Compliance with EA is measured and reported.**

maturation

Source: GAO.

EAMMF Version 1.1

|	Stage 1: Creating EA awareness	Stage 2: Building the EA management foundation	Stage 3: Developing EA products	Stage 4: Completing EA products	Stage 5: Leveraging the EA to manage change
Attribute 1: Demonstrates commitment		Adequate resources exist. Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	Written and approved organization policy exists for EA development.	Written and approved organization policy exists for EA maintenance.	Written and approved organization policy exists for IT investment compliance with EA.
Attribute 2: Provides capability to meet commitment		Program office responsible for EA development and maintenance exists. Chief architect exists. EA being developed using a framework, methodology, and automated tool.	EA products are under configuration management.	EA products and management processes undergo independent verification and validation.	Process exists to formally manage EA change. EA is integral component of IT investment management process.
Attribute 3: Demonstrates satisfaction of commitment		EA plans call for describing both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be." EA plans call for describing both the "as-is" and the "to-be" environments in terms of business, performance, information/data, application/service, and technology. EA plans call for business, performance, information/data, service, and technology descriptions to address security.	EA products describe or will describe both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be." Both the "as-is" and the "to-be" environments are described or will be described in terms of business, performance, information/data, application/service, and technology. Business, performance, information/data, application/service, and technology descriptions address or will address security.	EA products describe both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be." Both the "as-is" and the "to-be" environments are described in terms of business, performance, information/data, application/service, and technology. Business, performance, information/data, application/service, and technology descriptions address security. Organization CIO has approved current version of EA. Committee or group representing the enterprise or the investment review board has approved current version of EA.	EA products are periodically updated. IT investments comply with EA. Organization head has approved current version of EA.
Attribute 4: Verifies satisfaction of commitment		EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	Progress against EA plans is measured and reported.	Quality of EA products is measured and reported.	Return on EA investment is measured and reported. Compliance with EA is measured and reported.

Source: GAO.
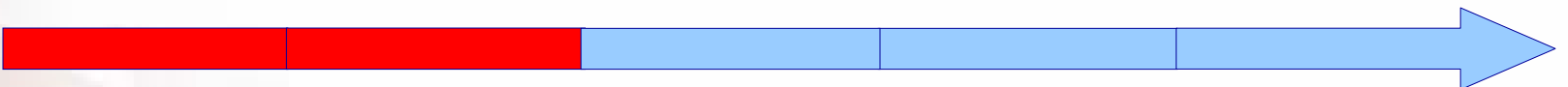
Note: each stage includes all elements of previous stages.

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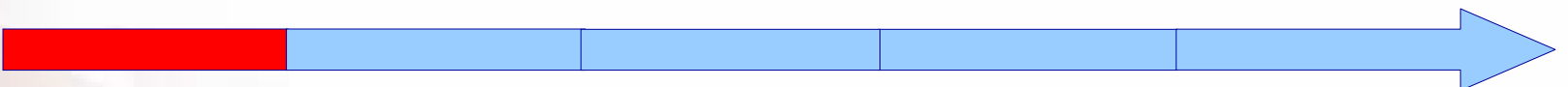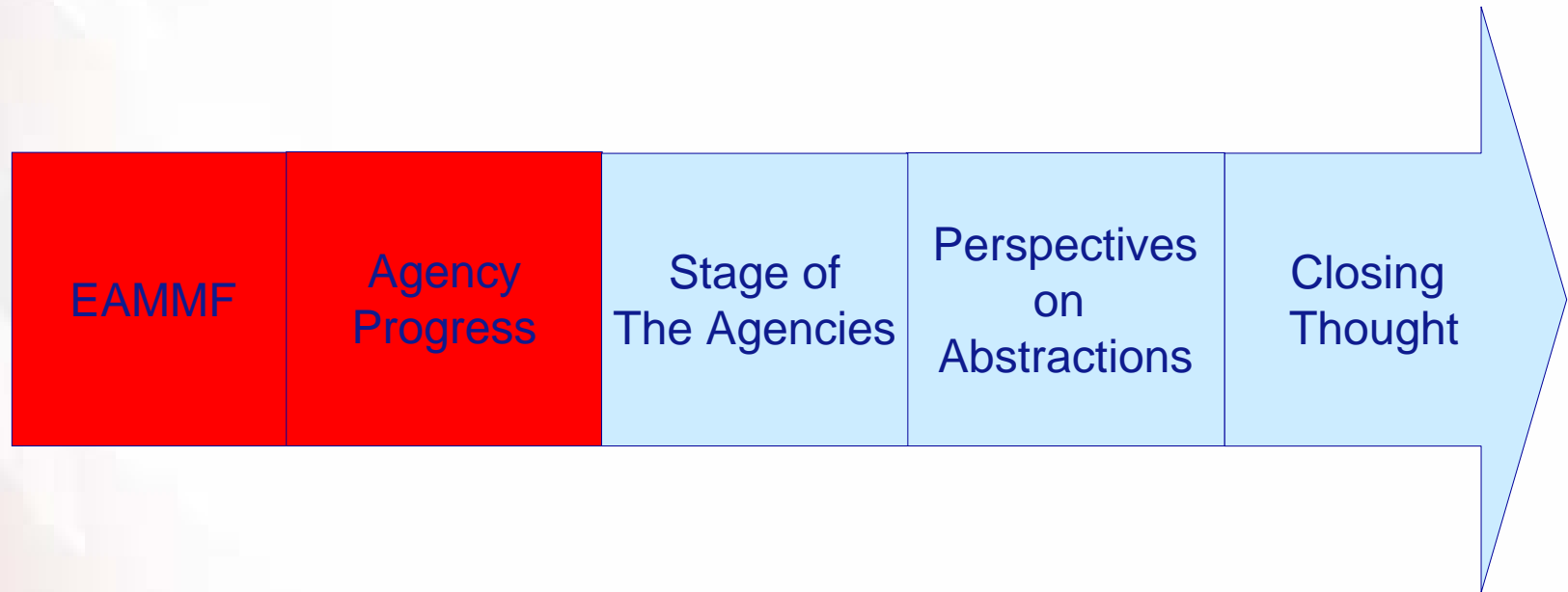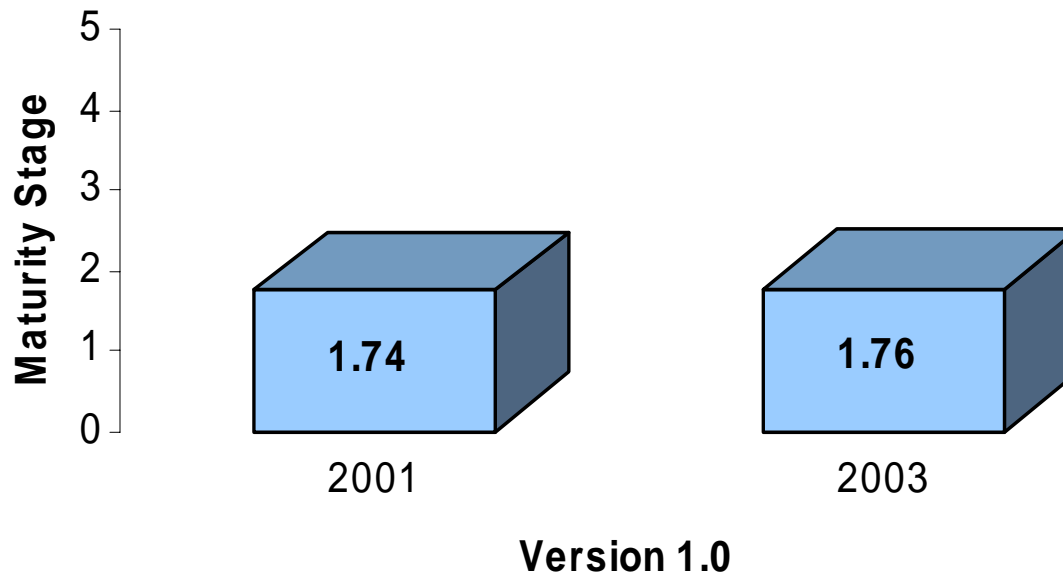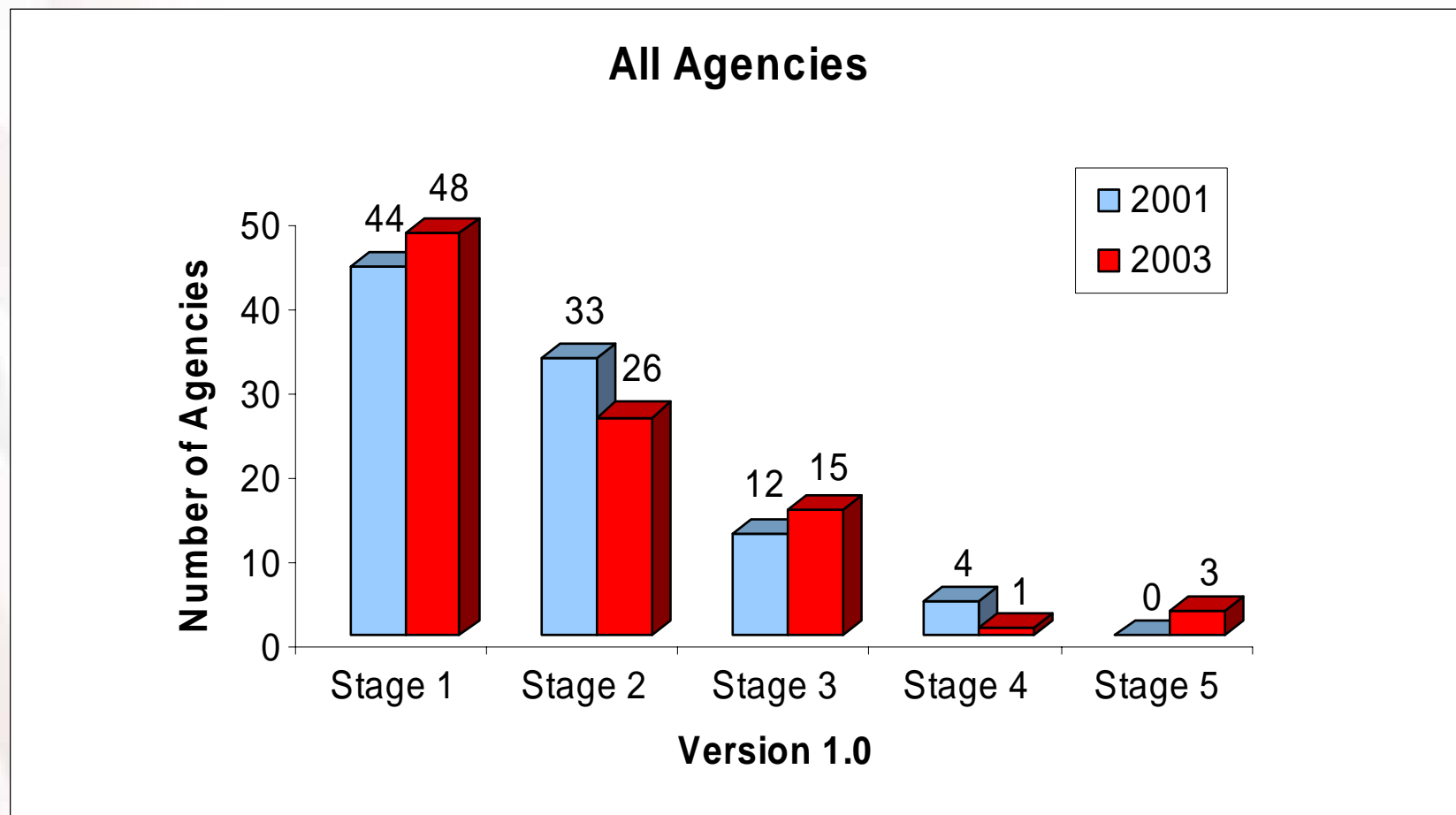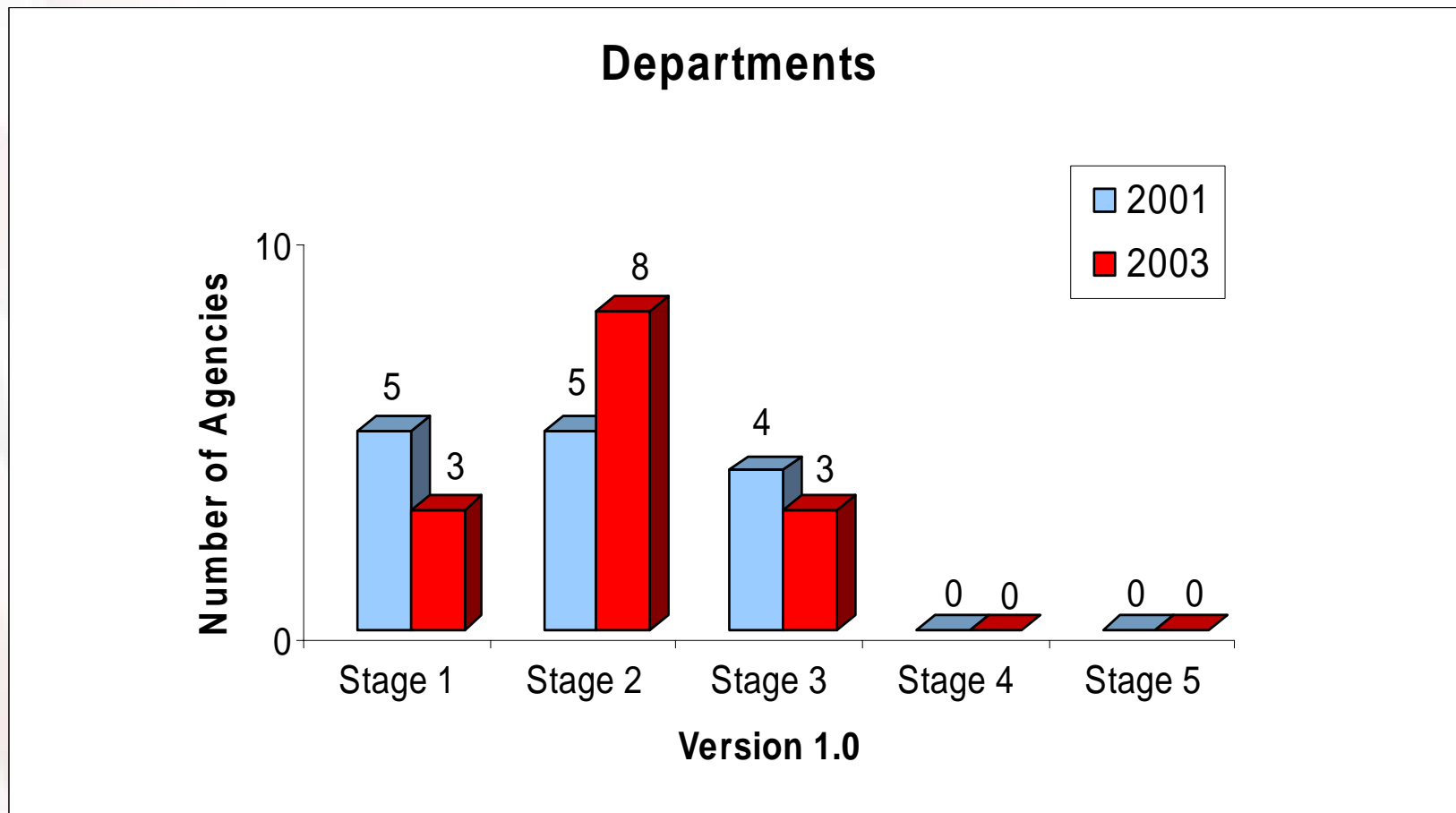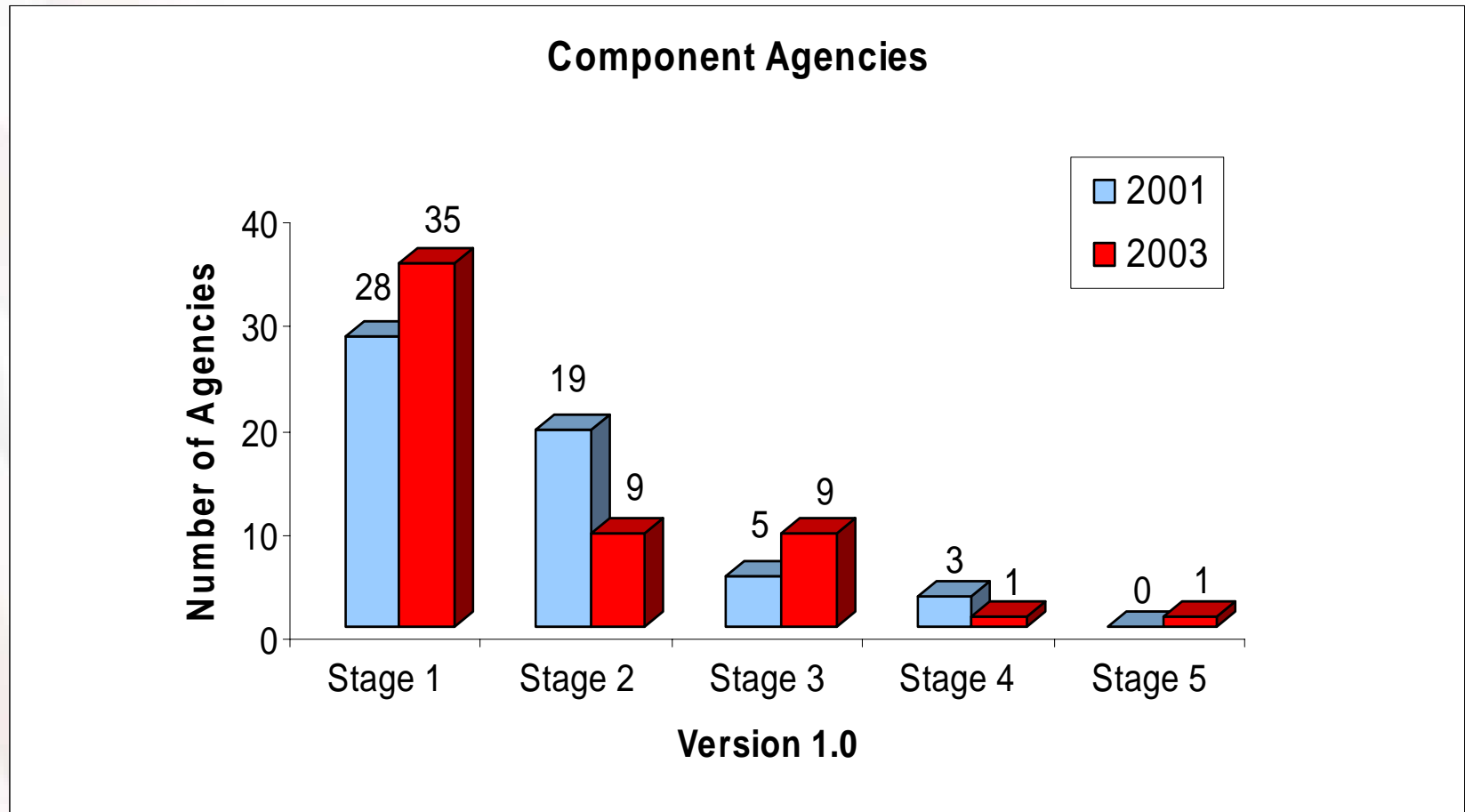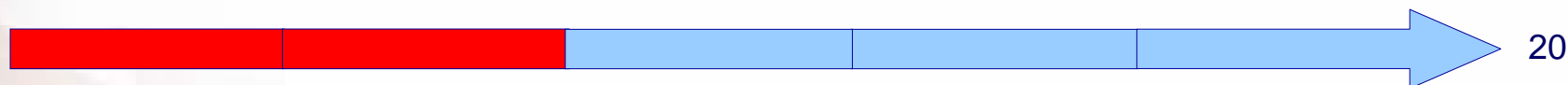
Agency Progress

Agency Progress

Average Maturity Stage

Agency Progress

All Agencies

Agency Progress

Agency Progress

Component Agencies

Legend: 2001, 2003

Stage	2001	2003
Stage 1	28	35
Stage 2	19	9
Stage 3	5	9
Stage 4	3	1
Stage 5	0	1

Y-axis: **Number of Agencies** (0, 10, 20, 30, 40)

X-axis: **Version 1.0**

Agency Progress

Independent Agencies

Number of Agencies

	2001	2003
Stage 1	11	10
Stage 2	9	9
Stage 3	3	3
Stage 4	1	0
Stage 5	0	2

Version 1.0
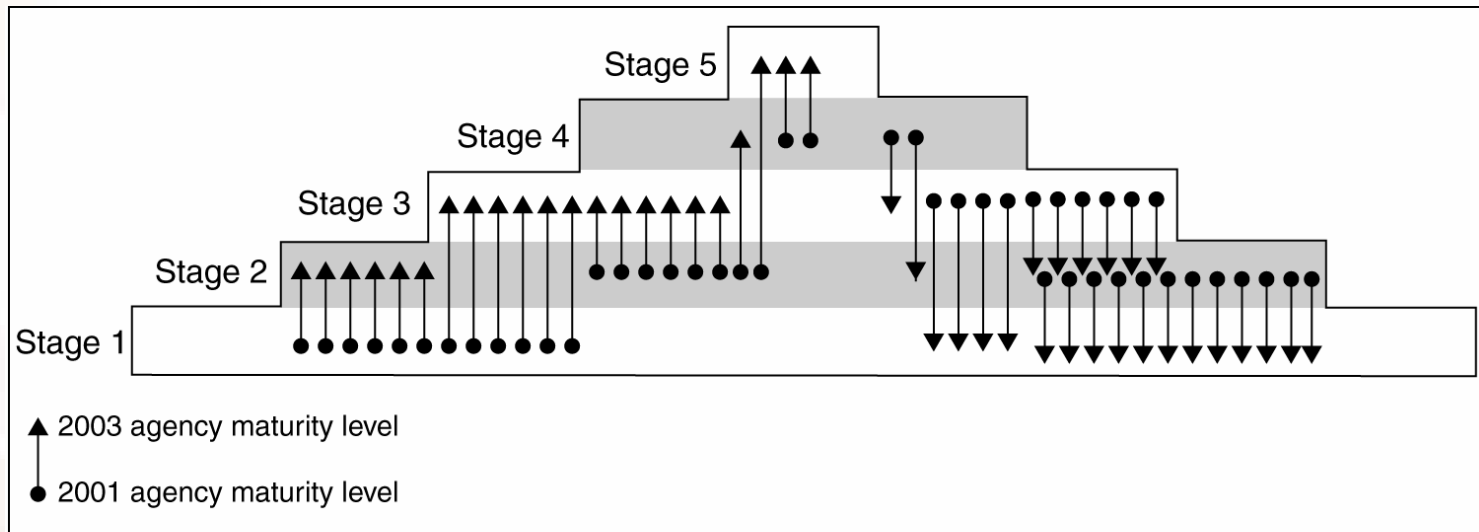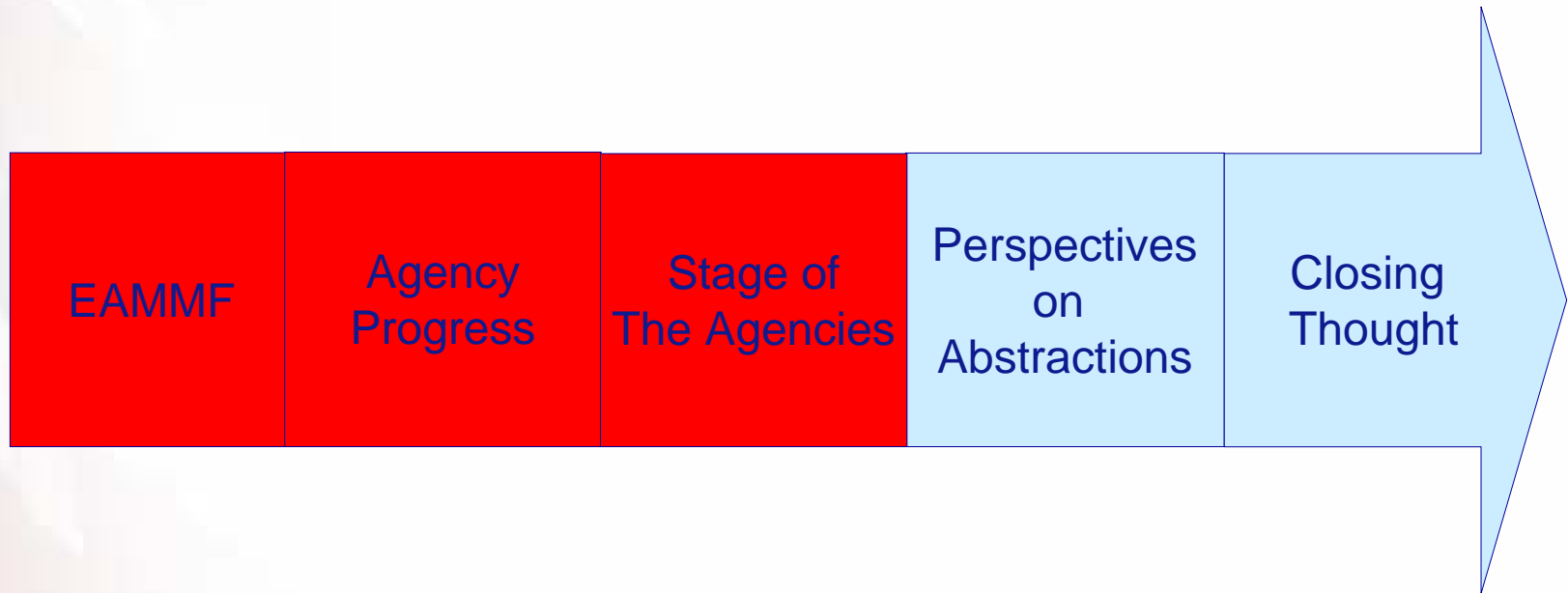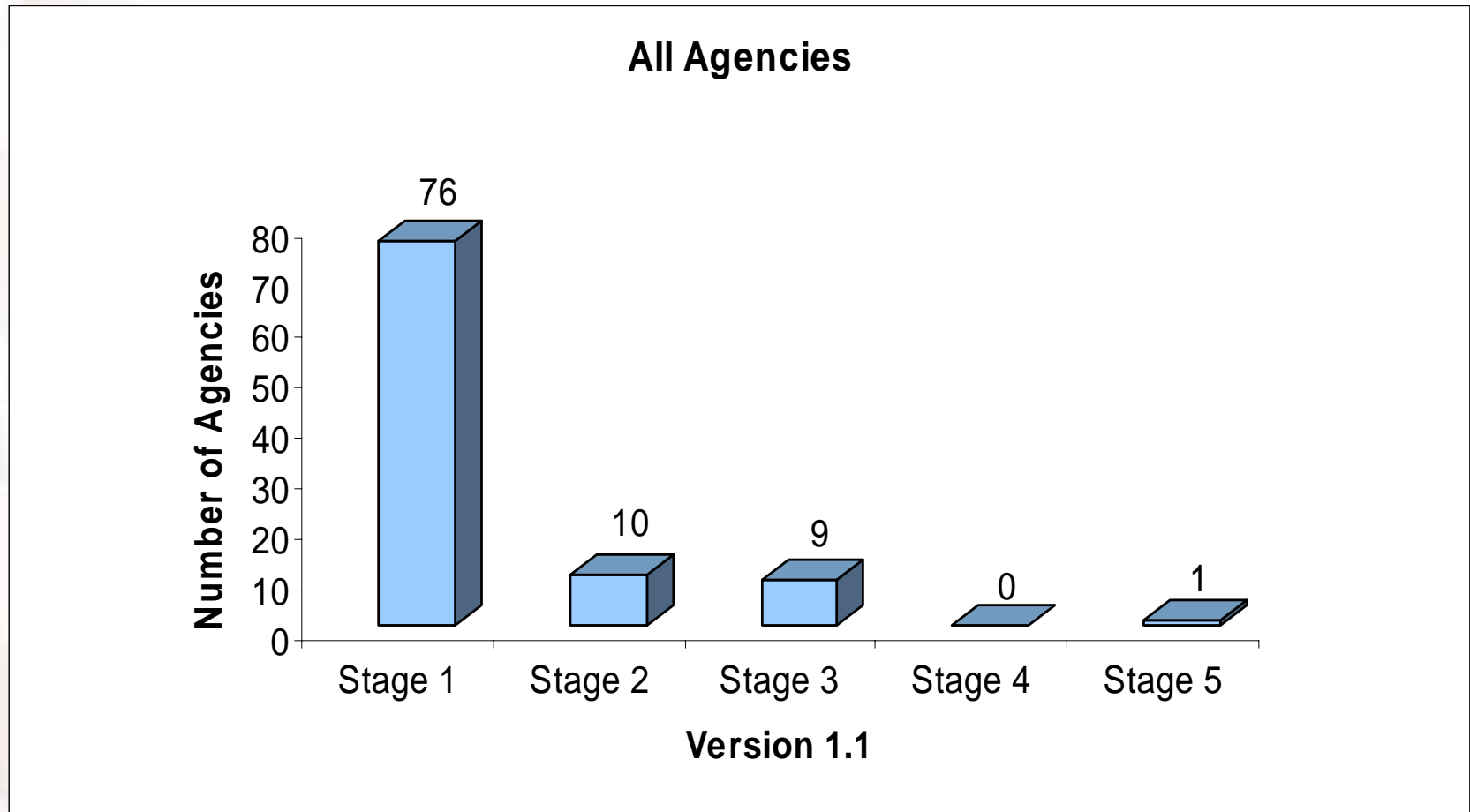
Agency Progress
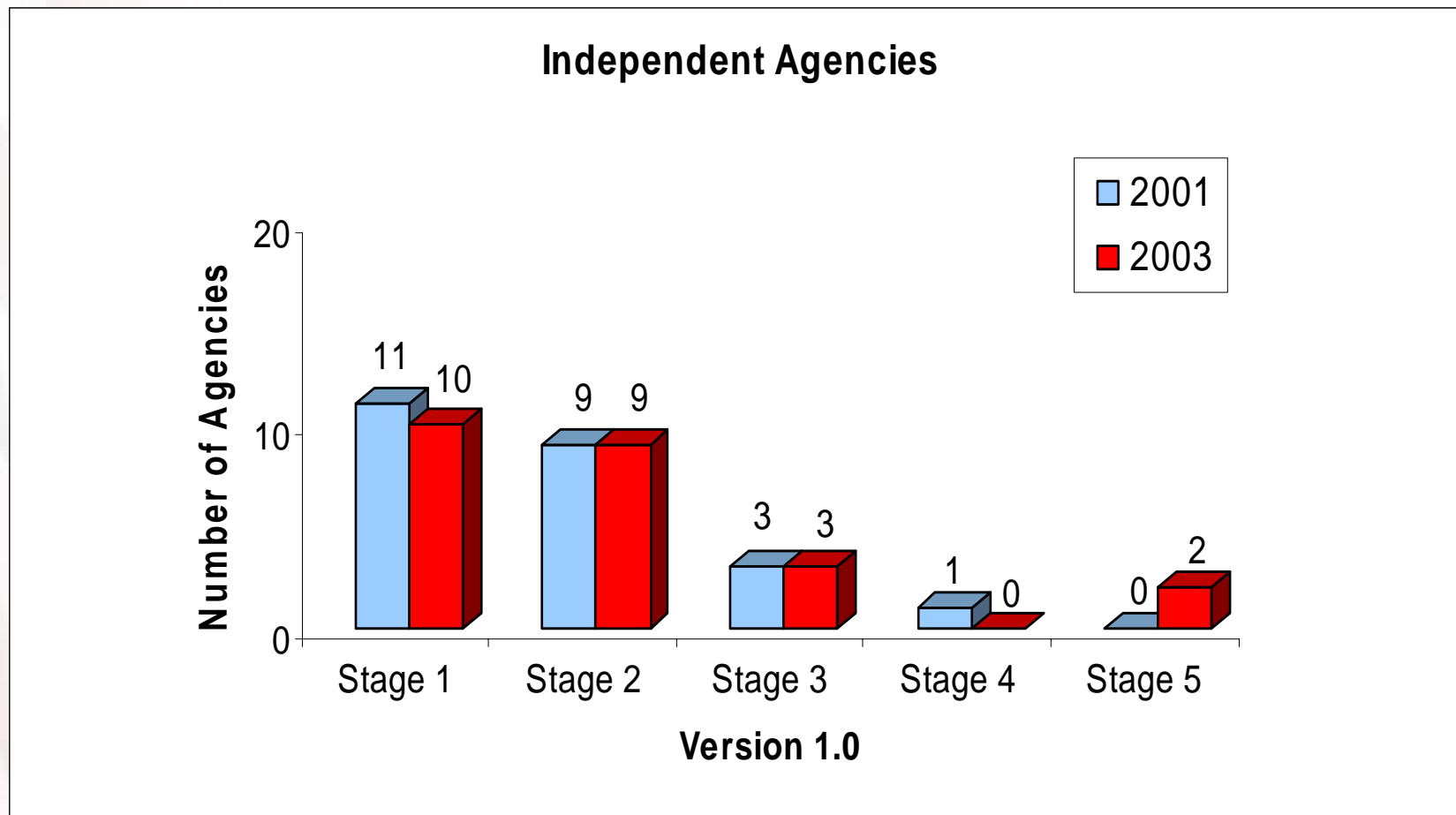
22 agencies increased their maturity stage, 24 agencies declined, and 47 agencies remained the same.

Stage of the Agencies

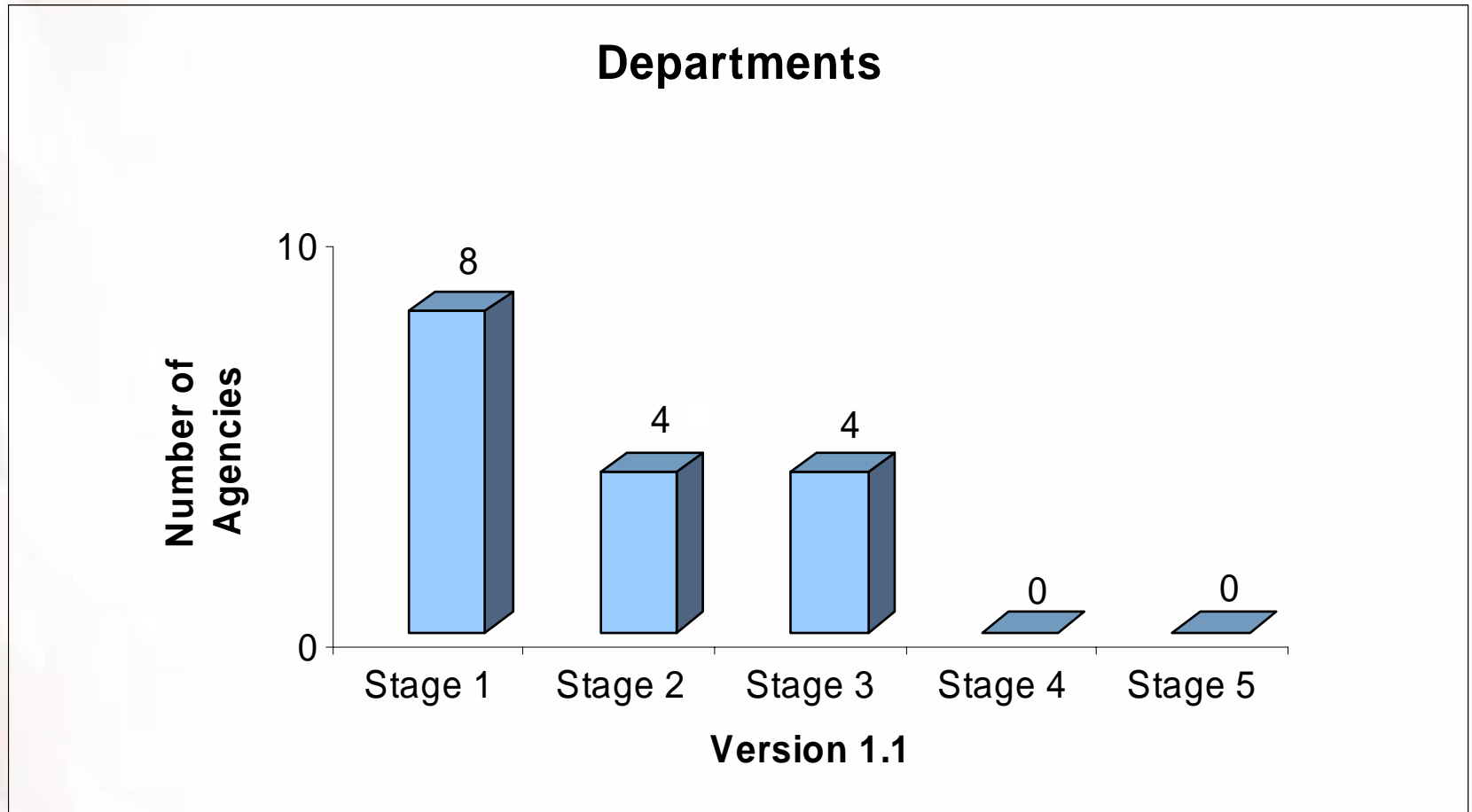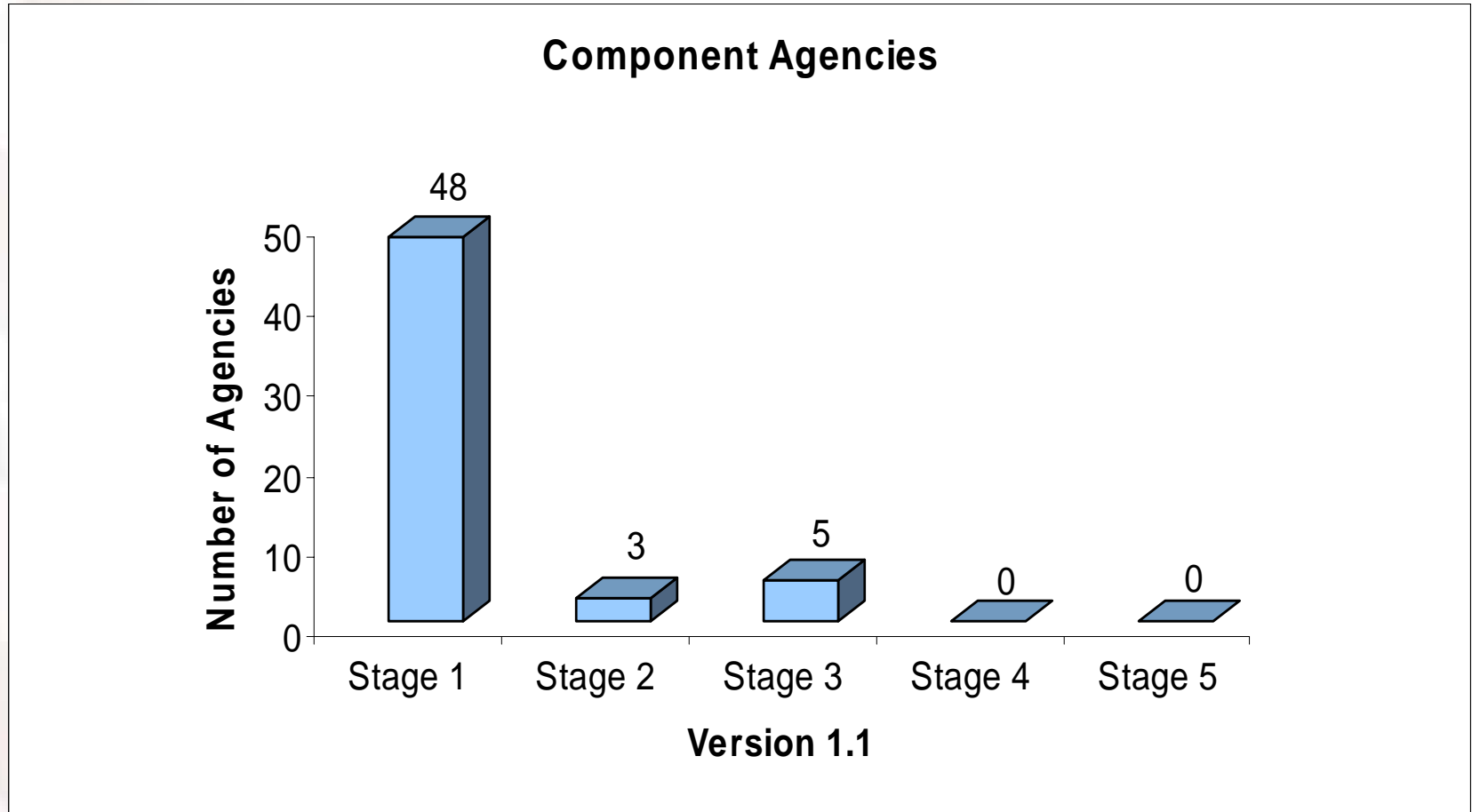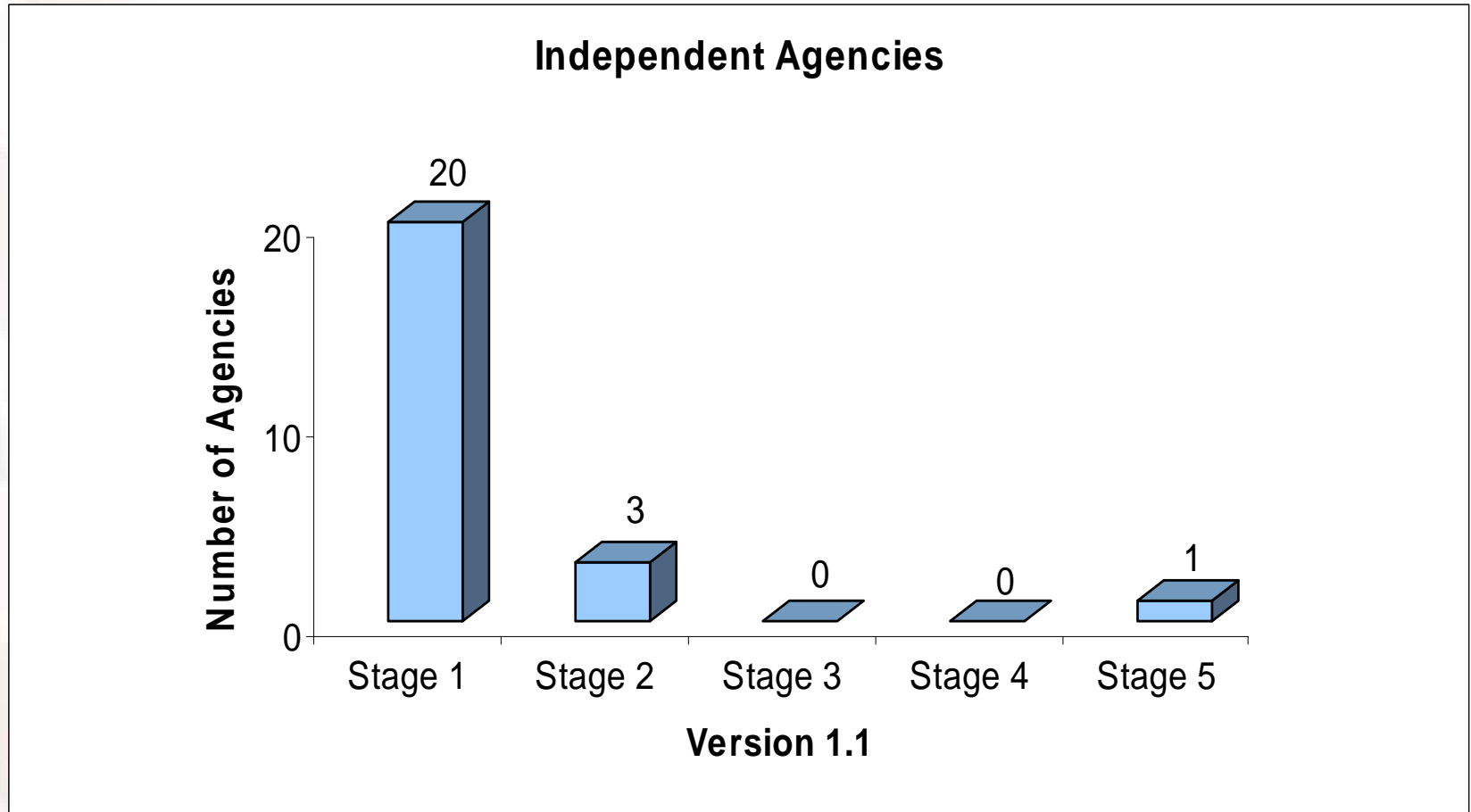
EAMMF | Agency Progress | Stage of The Agencies | Perspectives on Abstractions | Closing Thought

Stage of the Agencies

All Agencies

Number of Agencies (y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80)

- Stage 1: 76
- Stage 2: 10
- Stage 3: 9
- Stage 4: 0
- Stage 5: 1

Version 1.1

Stage of the Agencies

Departments / Version 1.1

Stage of the Agencies

Stage of the Agencies

Independent Agencies

Number of Agencies

20 — 20
10
0

Stage 1   Stage 2   Stage 3   Stage 4   Stage 5

Stage 1: 20
Stage 2: 3
Stage 3: 0
Stage 4: 0
Stage 5: 1

Version 1.1

Stage 2: Building the EA Management Foundation

	Stage 1	Stage 2: Building the EA management foundation	Percent Satisfying Element
Attribute 1: Demonstrates commitment		Adequate resources exist. Committee or group representing the enterprise is responsible for directing, overseeing, or approving EA.	69 79
Attribute 2: Provides capability to meet commitment		Program office responsible for EA development and maintenance exists. Chief architect exists. EA being developed using a framework, methodology, and automated tool.	58 80 41
Attribute 3: Demonstrates satisfaction of commitment		EA plans call for describing both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be." EA plans call for describing both the "as-is" and the "to-be" environments in terms of business, performance, information/data, application/service, and technology. EA plans call for business, performance, information/data, service, and technology descriptions to address security.	94 90 86
Attribute 4: Verifies satisfaction of commitment		EA plans call for developing metrics for measuring EA progress, quality, compliance, and return on investment.	81

maturation

Source: GAO.

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Stage 3: Developing EA Products

	Stage 1	Stage 2	Stage 3: Developing EA products	Percent Satisfying Element
Attribute 1: Demonstrates commitment			**Written and approved organization policy exists for EA development.**	**33**
Attribute 2: Provides capability to meet commitment			**EA products are under configuration management.**	**43**
Attribute 3: Demonstrates satisfaction of commitment			**EA products describe or will describe both the "as-is" and the "to-be" environments of the enterprise, as well as a sequencing plan for transitioning from the "as-is" to the "to-be."**	**88**
			Both the "as-is" and the "to-be" environments are described or will be described in terms of business, performance, information/data, application/service, and technology.	**83**
			Business, performance, information/data, application/service, and technology descriptions address or will address security.	**80**
Attribute 4: Verifies satisfaction of commitment			**Progress against EA plans is measured and reported.**	**34**

maturation

Source: GAO.

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Reasons for Optimism

DOD Global Information Grid Architecture

Bureau of Alcohol, Tobacco, Firearms, and Explosives

Perspectives on Abstractions

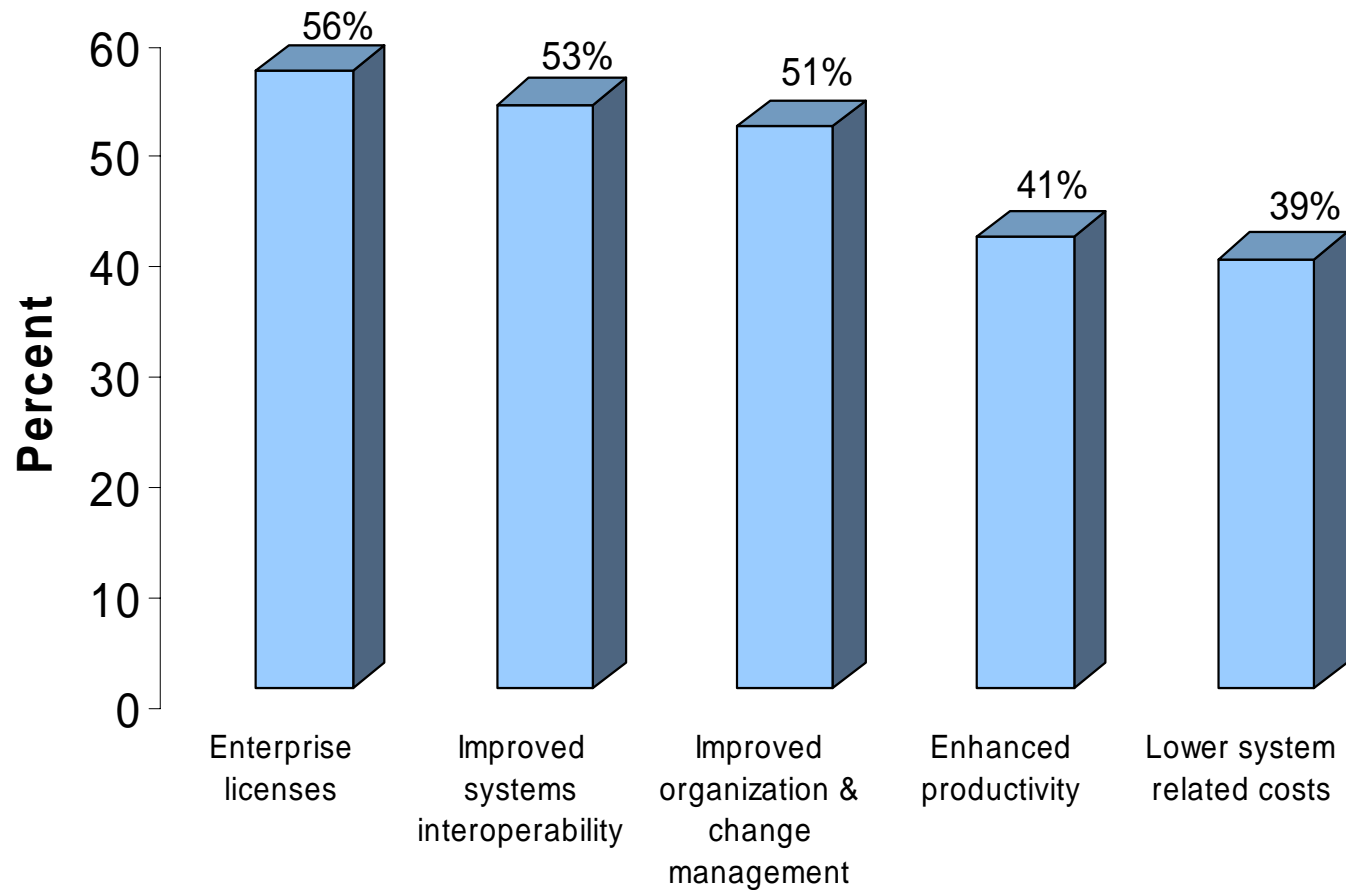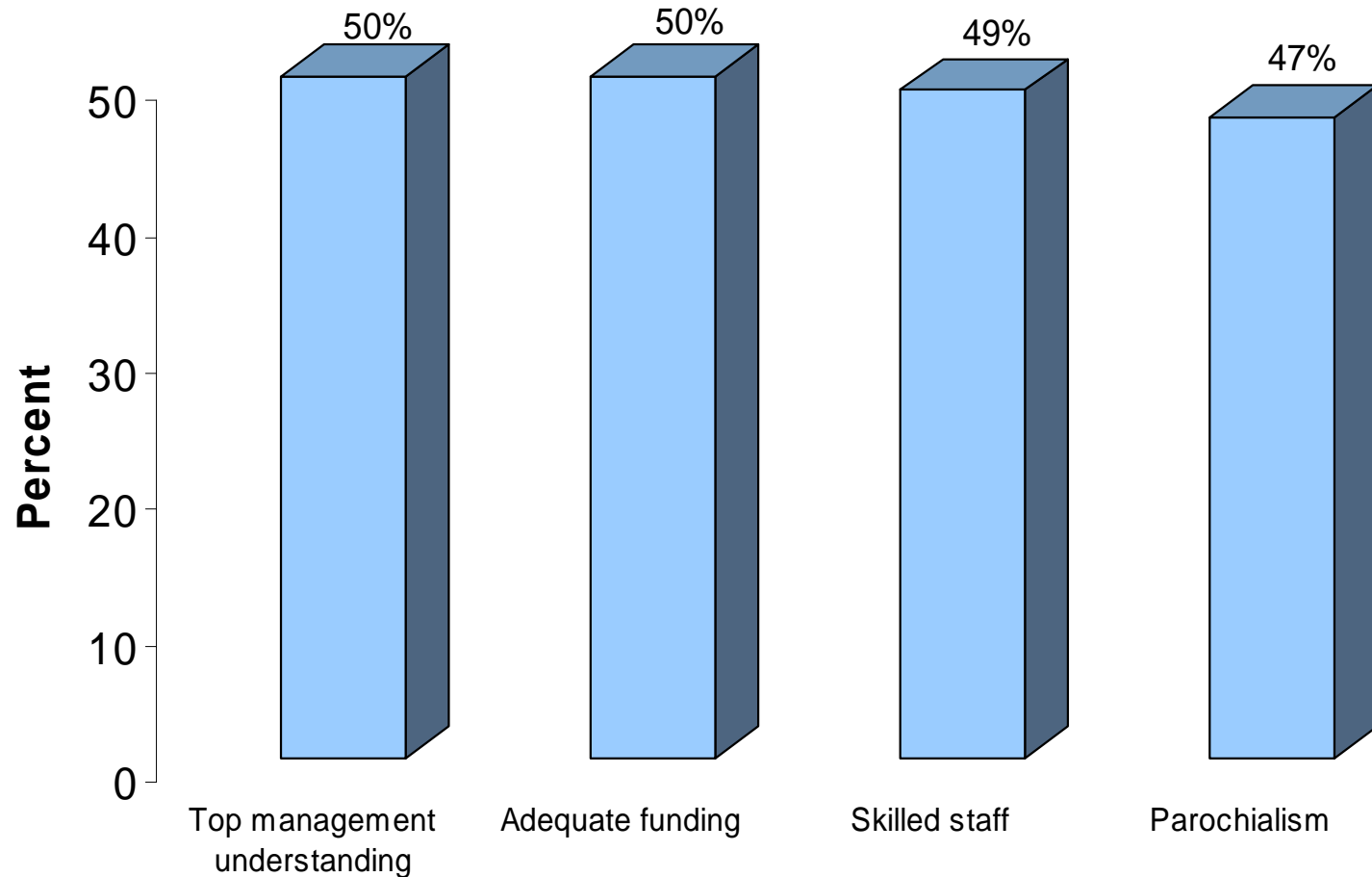EAMMF | Agency Progress | Stage of The Agencies | Perspectives on Abstractions | Closing Thought
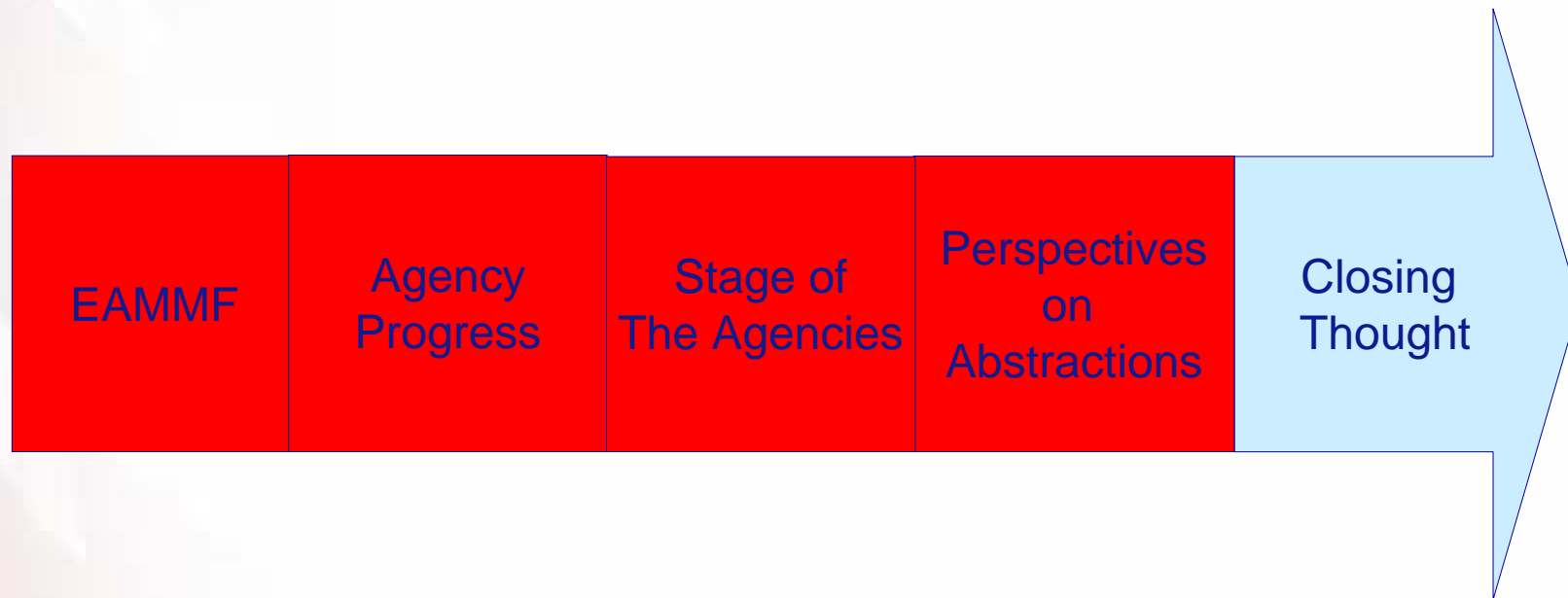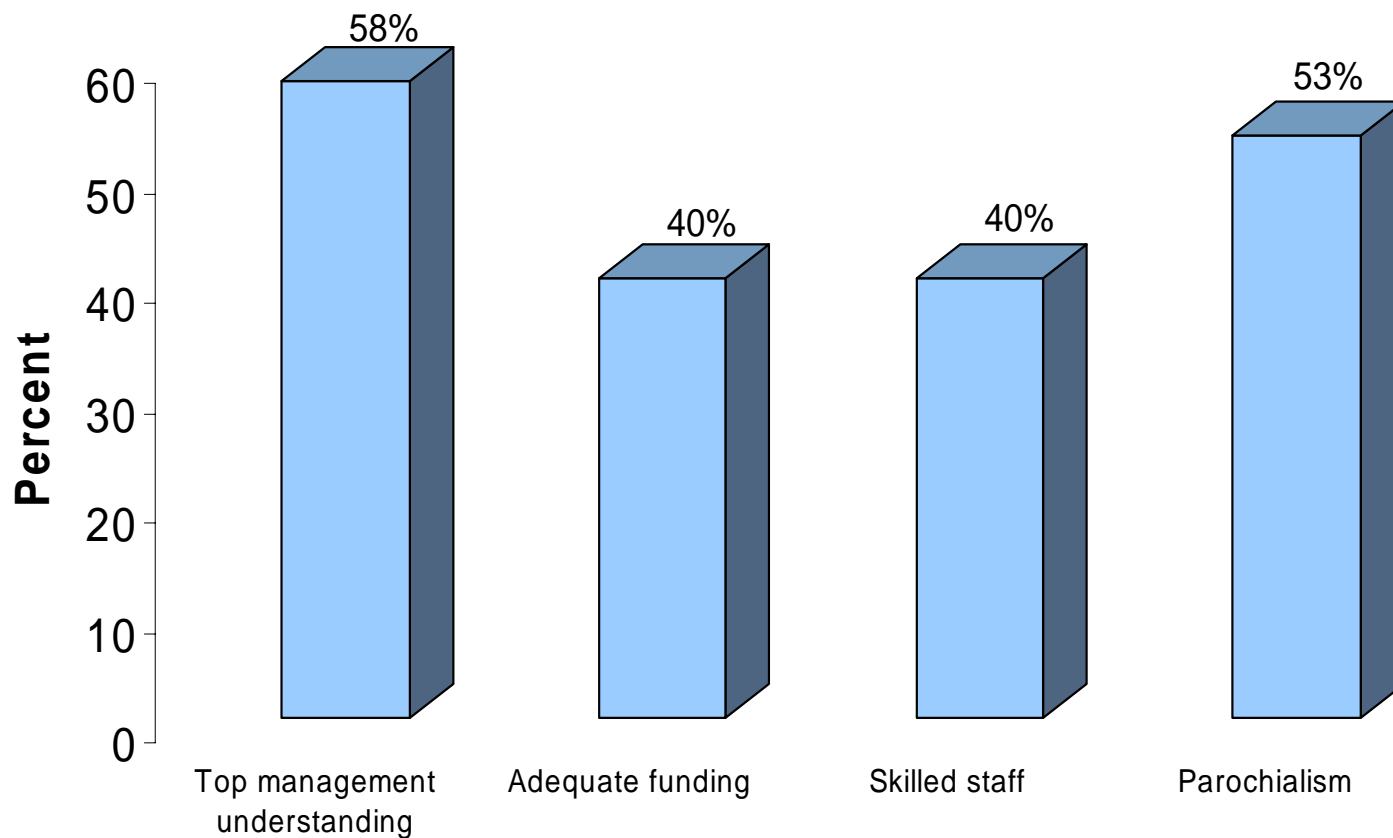
Perspectives on Abstractions

Most Frequently Cited EA Benefits

Perspectives on Abstractions
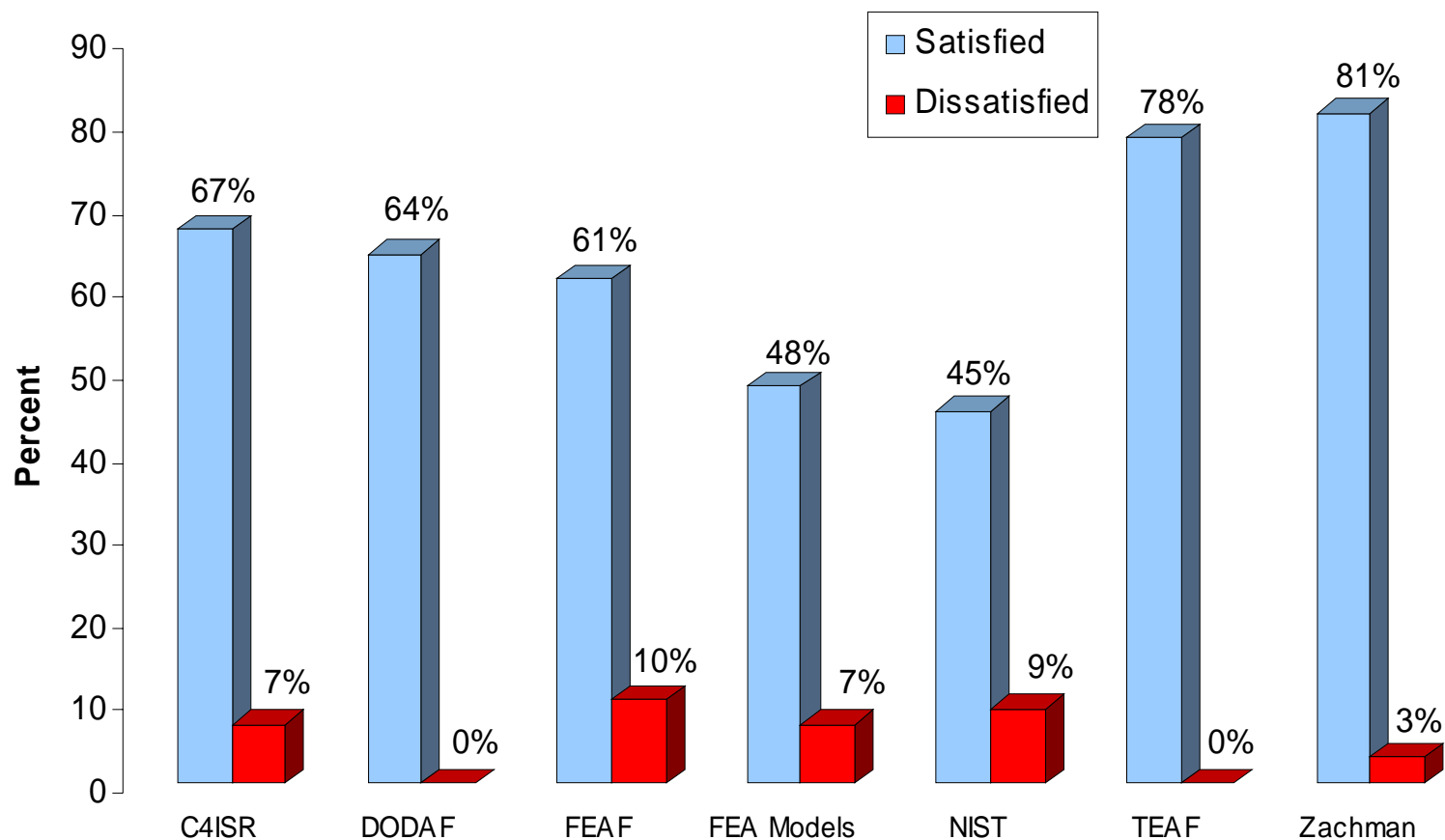

Most Frequently Cited EA Management Challenges

Perspectives on Abstractions

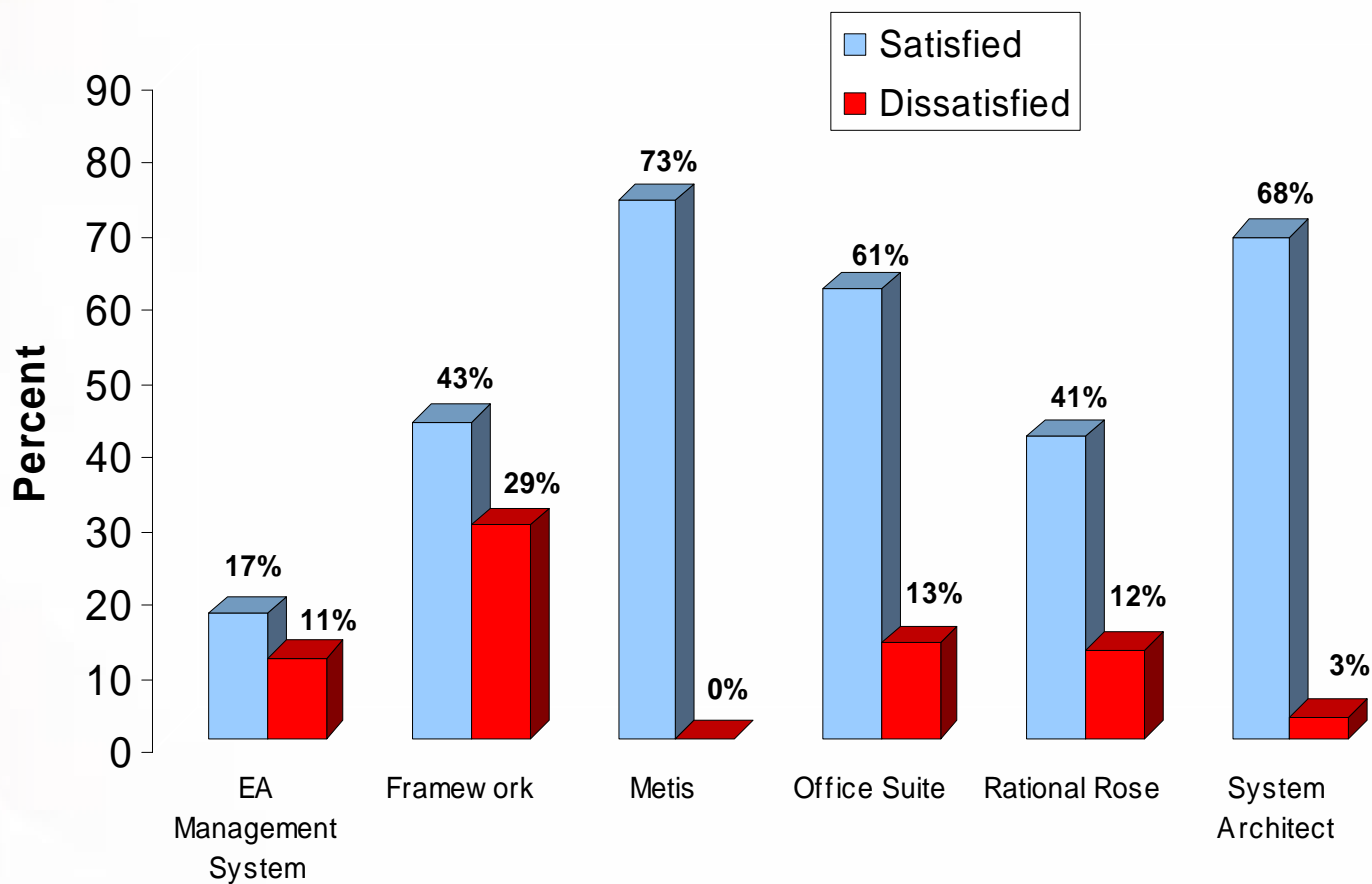Satisfaction with OMB's Efforts to Address Management Challenges

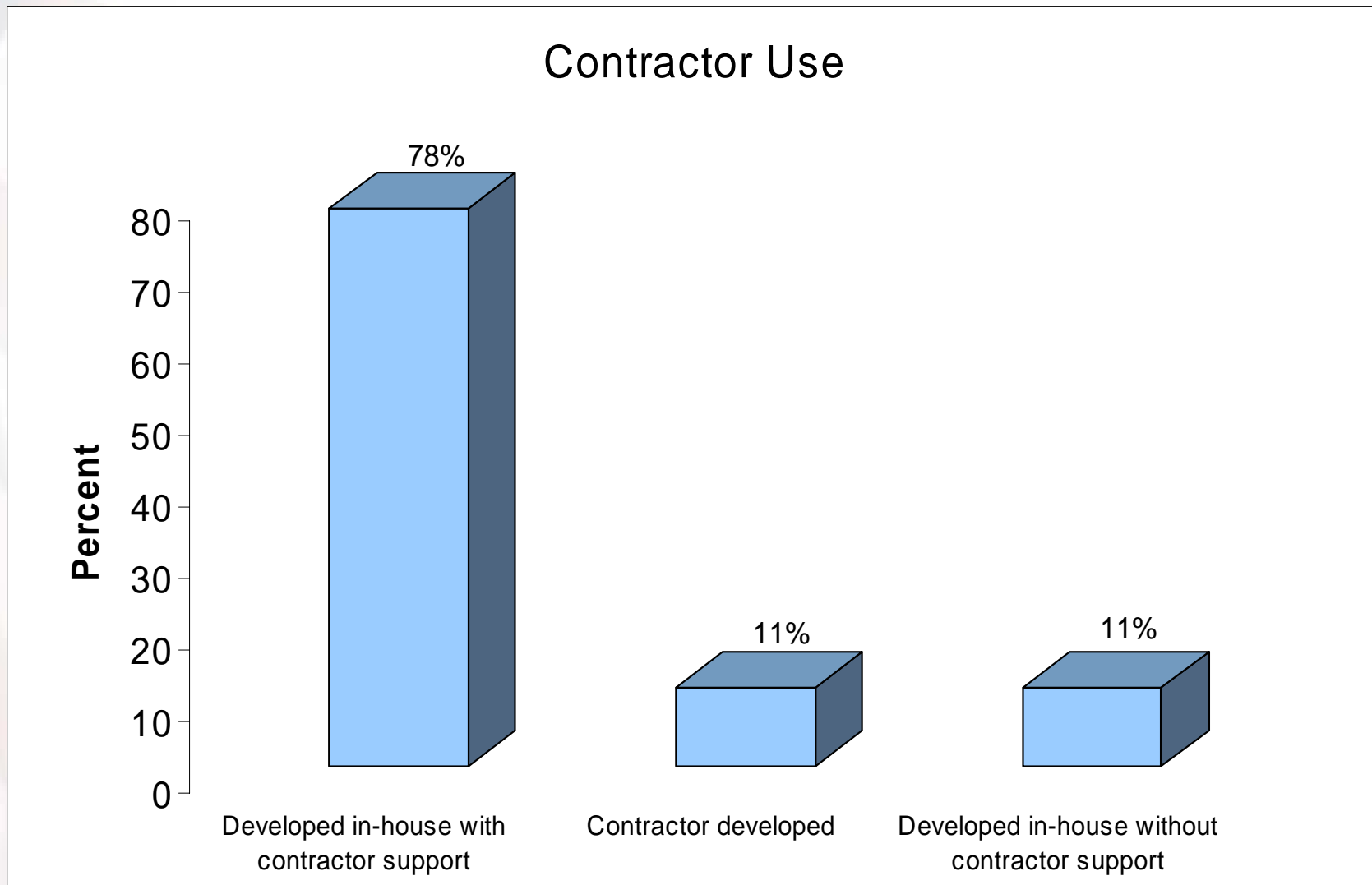# Perspectives on Abstractions

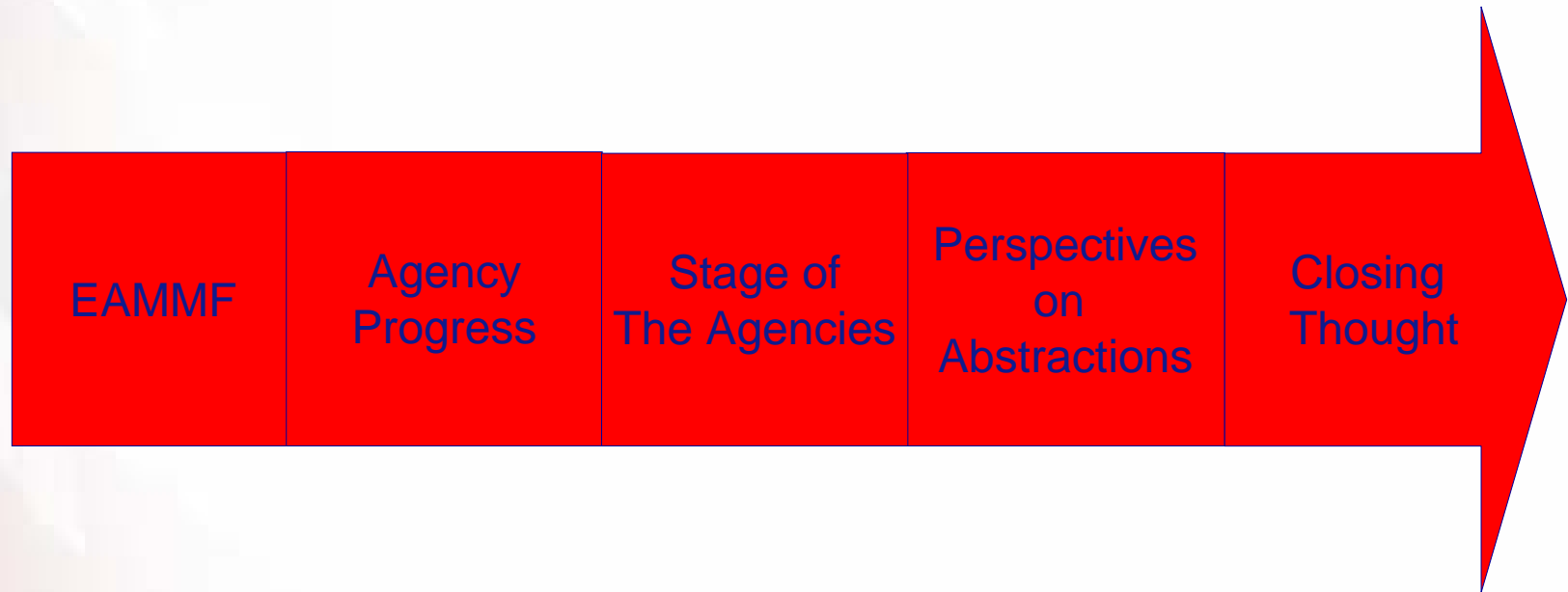Satisfaction with Frameworks

Perspectives on Abstractions

Satisfaction with Tools

Perspectives on Abstractions

Closing Thought

EAMMF | Agency Progress | Stage of The Agencies | Perspectives on Abstractions | Closing Thought

Closing Thought

"Right now, agencies' use of enterprise architecture is at a crossroads. A great deal of effort has been put into developing an assortment of artifacts or components, but the real success of this whole EA discipline will hinge on whether or not these artifacts are actually used to affect change."

– Randy Hite, Director, Information Technology Architecture and Systems Issues, GAO

Questions and Answers